

EXHIBIT B

(12) **EX PARTE REEXAMINATION CERTIFICATE** (6643rd)**United States Patent****Shinada et al.**(10) **Number:** **US 6,502,917 C1**(45) **Certificate Issued:** **Feb. 3, 2009**(54) **INK-JET PRINTING APPARATUS AND INK CARTRIDGE THEREFOR**(56) **References Cited****U.S. PATENT DOCUMENTS**

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5,119,115 A 6/1992 Buat et al.
 5,442,386 A * 8/1995 Childers et al. 347/50
 5,488,401 A 1/1996 Mochizuki et al.
 5,610,635 A 3/1997 Murray et al.
 5,706,040 A 1/1998 Reid et al.
 5,975,677 A 11/1999 Marler et al.
 6,102,517 A 8/2000 Kobayashi et al.

(73) Assignee: **Seiko Epson Corporation**, Tokyo (JP)**FOREIGN PATENT DOCUMENTS**

JP 03-227629 A 10/1991
 JP WO 97/23352 * 7/1997
 WO WO-98/04414 A1 2/1998

* cited by examiner

Primary Examiner—Minh T Nguyen(57) **ABSTRACT**

An ink jet type printing apparatus in which an ink supply needle is located near one side in a direction perpendicular to the reciprocated directions of a carriage, a circuit board is mounted on a wall of an ink cartridge in the vicinity of the side on which an ink supply port is formed and plural contacts for connecting to external control means are formed on the exposed surface of the circuit board.

Reexamination Request:

No. 90/008,791, Aug. 3, 2007

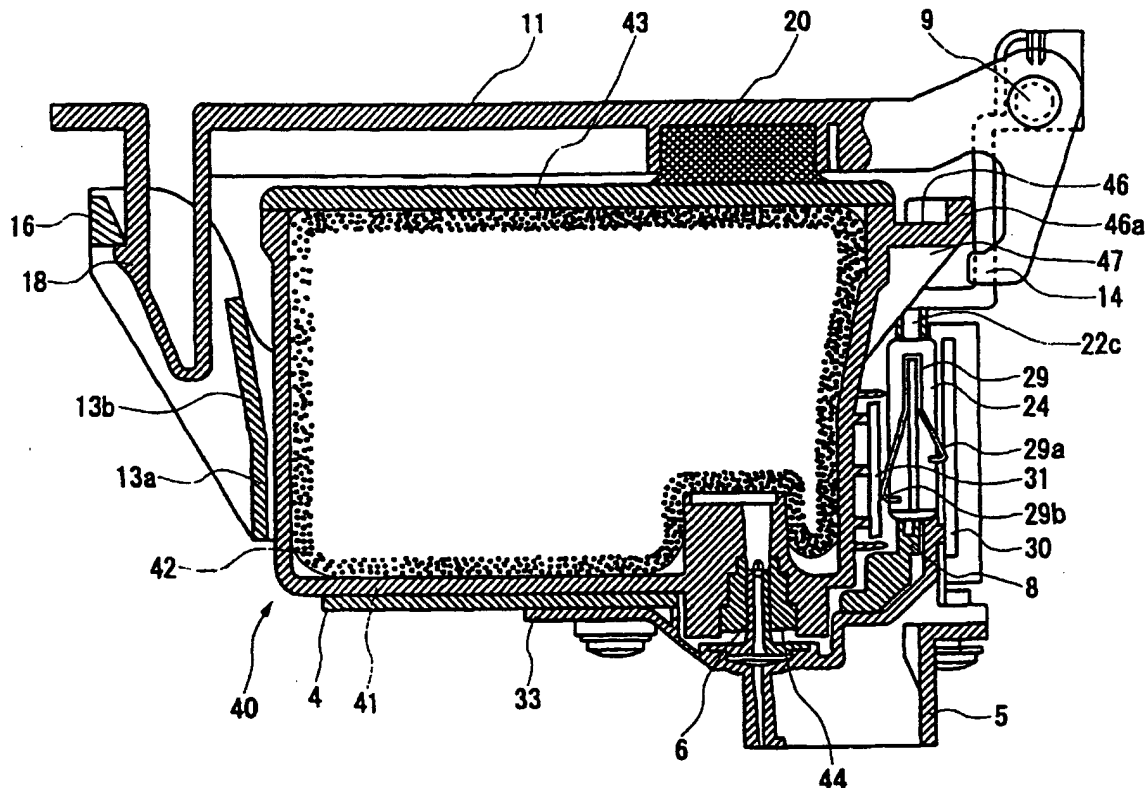
Reexamination Certificate for:

Patent No.: **6,502,917**
 Issued: **Jan. 7, 2003**
 Appl. No.: **09/484,458**
 Filed: **Jan. 18, 2000**

(51) **Int. Cl.**
B41J 29/393 (2006.01)
B41J 2/175 (2006.01)

(52) **U.S. Cl.** **347/19; 347/86**

(58) **Field of Classification Search** None
 See application file for complete search history.



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**EX PARTE
REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307**

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN
DETERMINED THAT:

The patentability of claims 1, 8 is confirmed.

Claims 17–22 are cancelled.

Claims 2–6, 9 and 13 are determined to be patentable as amended.

Claims 10–12, 14 and 16, dependent on an amended claim, are determined to be patentable.

Claims 7, 15 and 23–38 were not reexamined.

2. The ink cartridge according to claim 1, wherein said semiconductor storage device is disposed on said second wall of said [housing] *chamber*.

3. The ink cartridge according to claim 1, wherein said semiconductor storage device is disposed on said second wall of said [housing] *chamber* in the vicinity of said ink supply port.

4. The ink cartridge according to claim 1, wherein said semiconductor storage device is disposed on said second wall which is perpendicular to said first wall of said [housing] *chamber*.

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5. The ink cartridge according to claim 1, wherein said contacts connecting said semiconductor storage device are disposed on a substrate which is substantially rectangular, and said semiconductor storage device is disposed on said second wall which is substantially perpendicular to said first wall, and said second wall has a shorter width than the other wall of said [housing] *chamber*.

6. The ink cartridge according to claim 1, wherein said contacts connecting said semiconductor storage device are disposed substantially in parallel with said second wall which is perpendicular to said first wall of said [housing] *chamber*.

9. An ink cartridge for mounting on a [cartridge] *carriage* of an ink jet printing apparatus and for supplying ink to a printhead of said ink jet printing apparatus through an ink supply needle, the ink cartridge comprising:

a plurality of external walls defining at least some of a chamber;

an ink supply port for receiving said ink supply needle, the ink supply port having an exit opening and a centerline and communicating with the chamber;

a semiconductor storage device storing information about the ink carried by said cartridge; and

a plurality of contacts for connecting said semiconductor storage device to the ink jet printing apparatus, the contacts being formed in a plurality of rows so that one of said rows is closer to said exit opening of said ink supply port than an other of said rows, the row of said contacts which is closest to said exit opening of said ink supply port being longer than the row of said contacts which is furthest from said exit opening of said ink supply port.

13. The ink cartridge according to claim 12, wherein said semiconductor storage device is located on a center line of said wall of said [housing] *chamber* on which said semiconductor storage device is disposed.

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